ABSTRACT OF THE DISCLOSURE

The invention concerns a method for processing a signal using an approximate MAP (maximum a posteriori) algorithm for determining a likelihood ratio Λ_k^x of a set of states X of a lattice at a time k, with each of said states being associated at least one intermediate variable belonging to a group comprising a so-called forward variable and a so-called backward variable, propagated by said MAP algorithm and recursively calculated respectively in a direct orientation and in an indirect orientation at said time k relative to said lattice. The invention is characterized in that said process comprises a step which consists in reducing the number of selected states by said MAP algorithm so as to calculate said likelihood ratio, and, for at least some unselected states, in assigning to said forward variable and/or said backward variable at least one specific value, to calculate an approximate likelihood ratio.